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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/769,116	01/30/2004	Leonard Forbes	400.261US01	7177

7590 10/29/2004

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EXAMINER	
HO, TU TU V	

ART UNIT	PAPER NUMBER
2818	

DATE MAILED: 10/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/769,116	FORBES, LEONARD	
	Examiner	Art Unit	
	Tu-Tu Ho	2818	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 January 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-65* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *1-65* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/ Restriction

Claims 1-65 are pending in this application.

1. The claims are directed to the following patently distinct species of the claimed invention:

Species I. Illustrated in Figures 4A-4C and 7, and as best as can be understood described in claims 1-38;

Species II. Illustrated in Figures 5A-5D, 6A-6C, and 7, and as best as can be understood described in claims 39-65.

Applicant is further required under 35 U.S.C. 121 to elect from each species one of the two distinct inventions as detailed in paragraph numbered 2.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, none is generic between the two species.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims (if different from the above listing) readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

2. Applicant is further required under 35 U.S.C. 121 to elect one of the following distinct inventions:

IA. **Claims 1-14**, drawn to a vertical floating gate (FG) structure having a FG element on a first sidewall of a trench and a select gate (SG) on a second sidewall of the trench and systems and arrays including the FG structures, classified in class 257, subclass 316.

IB. **Claims 15-38**, drawn to a method of making a vertical floating gate (FG) structure having a FG element on a first sidewall of a trench and a select gate (SG) on a second sidewall of the trench and arrays including the FG structures, classified in class 438, subclass 266.

IIA. **Claims 39-48**, drawn to a plurality of vertical floating gate (FG) structures coupled in a serial string whose ends coupled to vertical select gates, and systems and arrays including the serial string, classified in class 257, subclass 316 and class 365, subclass 185.17.

IIB. **Claims 49-65**, drawn to a method of making a plurality of vertical floating gate (FG) structures coupled in a serial string whose ends coupled to vertical select gates, and arrays including the serial string, classified in class 438, subclass 266.

3. The inventions are distinct, each from the other because of the following reasons:

Inventions IB and IA are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case

unpatentability of Invention IA would not necessarily imply unpatentability of Invention IB, since the device of Invention IA could be made by processes materially different from those of Invention IB. For example, the FG of Invention IA could be selectively deposited on the respective sidewalls of the trench rather than depositing a layer over the two pillars and the intervening trench then etching to form the FG as claimed in Invention IB.

Inventions IIB and IIA are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case unpatentability of Invention IIA would not necessarily imply unpatentability of Invention IIB, since the device of Invention IIA could be made by processes materially different from those of Invention IIB. For example, the FGs of Invention IIA could be selectively deposited on the respective sidewalls of the respective trenches rather than depositing a layer over the pillars and the intervening trenches then etching to form the FGs as claimed in Invention IIB.

Claims 1, 4, 7, 15, 26, and 38 link(s) inventions IA and IB. The restriction requirement between the linked inventions is subject to the nonallowance of the linking claim(s), claims 1, 4, 7, 15, 26, and 38. Claims 39, 47, 49, 57, and 63 link(s) inventions IIA and IIB. The restriction requirement between the linked inventions is subject to the nonallowance of the linking claim(s), claims 39, 47, 49, 57, and 63. Upon the allowance of the linking claim(s), the restriction requirement as to the linked inventions shall be withdrawn and any claim(s) depending from or otherwise including all the limitations of the allowable linking claim(s) will be entitled to

examination in the instant application. Applicant(s) are advised that if any such claim(s) depending from or including all the limitations of the allowable linking claim(s) is/are presented in a continuation or divisional application, the claims of the continuation or divisional application may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application. Where a restriction requirement is withdrawn, the provisions of 35 U.S.C. 121 are no longer applicable. *In re Ziegler*, 44 F.2d 1211, 1215, 170 USPQ 129, 131-32 (CCPA 1971). See also MPEP § 804.01.

4. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their different classification and their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

5. Applicant is advised that the response to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tu-Tu Ho whose telephone number is (571) 272-1778. The examiner can normally be reached on 6:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, DAVID NELMS can be reached on (571) 272-1787. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tu-Tu Ho
October 27, 2004